

Security of Attachment of Infants in Foster Care

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Statement of Research Problem: Infants in Foster Care

Due to changes in child welfare policy, protocol for substance use screening of mothers at childbirth, and child vulnerability, infants are the fastest growing age group in the child welfare population. (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau, 1999). The first year of life is a sensitive time for laying the foundation for all domains of child development. It is especially important in developing a secure attachment with the primary caregiver. Infants in foster care are at special risk. They enter substitute care substance exposed, neglected, and with a disproportionate number of developmental delays and medical problems when compared to a like-age cohort (Hochstadt, Jaudes, Zimo, Schachter, 1987; Klee & Halfon, 1987; Schor, 1988). They may also experience a number of primary caregiver changes (from birth parent to one or several related or non-related substitute caregivers.)

For infants, like other children entering foster care, the first choice of placement is a caregiver who is related to the child (kin caregiver). Kin caregivers are often at risk themselves. They are older, sicker, poorer and less supported by the child welfare system than unrelated foster care providers (de Acosta, 1998; Dubowitz, Feigelman, Zuravin, 1993; Scannapieco, Hegar & McAlpine, 1997). Although kinship caregivers are highly committed to the children in their care, it is unclear if the commitment is sufficient to overcome the environmental stresses and demands of caregiving a fragile infant. Some research in child welfare has shown that school-aged children placed with kin fare better in specific areas (i.e., mental health) than children of the same age placed with unrelated foster care providers (Dubowitz & Sawyer, 1994). One factor that may account for better outcome is the continuing relationship with the kin caregiver (before, during, and after placement).

Infants do not have a prior history with the kin or non-kin caregiver. It is not known if the blood tie between the caregiver and infant in itself significantly affects the infant-caregiver dyad. Studies of security of attachment in children who remain with birth parents in normal (Ainsworth, Blehar, Waters & Wall, 1978; Main, Kaplan & Cassidy,

1985) and at-risk populations (Erickson, Sroufe, & Egeland, 1985) found variation in the security of attachment. Research studies of adopted children found that children placed with adoptive families have about the same rate of secure attachment as those in birth families (Groze, 1992; Groze & Rosenthal, 1993). This seems to question the significance of the blood tie in affecting the infant's security of attachment.

The present study is a cross-sectional study that explores the effect of the blood relationship and other contextual factors on the security of attachment of infants who are about a year old with their kin and unrelated foster caregivers. Findings from this study provide new information on the quality of the attachment relationship of infants in foster care and contextual factors that may influence the caregiving relationships.

Research Background, Questions and Hypotheses

Many studies have investigated the infant-caregiver relationship (Stern, 1985; Zeanah, Boris, & Larrieu, 1997), contextual issues affecting development (Coll & Meyer, 1993), and the effect of poverty on child development (Duncan, Brooks-Gunn & Kelbanov, 1994; Eamon, 2001; Halpern, 1993). Belsky (1984, 1996, 1999) suggests a model for integrating ecological systems theory with attachment theory. In the Belsky model, attachment becomes a dependent variable that is the result of maternal sensitivity and contextual factors in the ecological system that affect that sensitivity (i.e., social support - formal and informal). Mental illness (particularly depression), in the maternal caregiver, is a predictor for insecure attachment in the infant (Hipwell, Goossens, Melhuish & Kumar, 2000). The proportional effect of the influence from the various factors is less clear (Sroufe, 1997).

The studies of infants in birth, adoptive (Brodzinsky, Smith, & Brodzinsky, 1998; Groze, 1992; Groze & Rosenthal, 1993; Singer, Brodzinsky, Ramsey, Steir, & Waters, 1985; Steinhauer, 1983) and foster care (Eagle, 1994; Marcus, 1988; Stovall & Dozier, 1998; Stovall & Dozier, 2000) families seem to imply that blood relationship may not be a significant factor in developing security of attachment of infants placed in care. Other factors may have a greater effect in supporting or impeding development of secure attachment (i.e., time of placement, length of placement).

A Swedish study, comparing outcomes for children in institutional care during the first year of life that were later placed in birth, adoptive, and foster care families (Larsson, Bohlin, Stenbacka, 1986), found that children who were secure had experienced fewer disruptions with the primary caregiver. The children placed in foster care fared worse than those in birth and adoptive families because of multiple placements.

Infant and caregiver characteristics. Although there is continuing controversy regarding what infant and caregiver characteristics affect the overall infant-caregiver dyad A recent review of the empirical research (Vaughn & Bost, 1999) found that although some infants are more difficult for some caregivers, the sensitivity of the caregiver and the support the caregiver receives in the environment are more significant overall in the development of a secure caregiver-infant relationship than infant

characteristics (i.e, temperament) (Vaughn & Bost, 1999). A recent study did find that one of the few infant characteristics that may affect the security of attachment of the infant to the caregiver is very low birth weight. It is correlated with insecure attachment at 14 months using the Water's Attachment Q-sort and at 19 months using the Strange Situation (Magelsdorf et al., 1996).

Childhood trauma of mother. The internal model of attachment in the birth mother as assessed by the Adult Attachment Interview is correlated with the identified security of attachment in the infant (Main, Kaplan, Cassidy, 1985; Posada, Waters, Crowell, & Lay, 1995; van IJzendoorn, 1995). Issues of unresolved loss and trauma, that are translated into frightened or frightening parental behavior in the caregiver-infant dyad, are of most concern (Carlson, 1998; Main & Hesse, 1990; van IJzendoorn, Schuengel, & Bakersman, 1999). These tend to lead to disoriented and/or disorganized attachment.

Contextual and environmental factors. The caregiving system established by the dyadic relationship is affected by other demands on the caregiver (Solomon & George, 1996). Environmental factors such as poverty have been found to affect the rate of secure attachment in lower socio-economic groups (Belsky, 1999; De Wolff & van IJzendoorn, 1997; van IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992).

Child welfare studies. Some child welfare studies use administrative data sets or survey instruments to compare caregiver and child characteristics and outcome for children of all ages in care (Berrick, Barth, & Needell, 1994; Dubowitz, Feigelman, Harrington, Starr, Zuravin, & Sawyer, 1994; Dubowitz, Feigelman, & Zuravin, 1993; Dubowitz & Sawyer, 1994; Goerge, 1990; Iglehart, 1994; Scannapieco, Hegar, & McAlpine, 1997; Wulczyn & Goerge, 1992).

One study that used direct in-home observations, highlighted advantages and disadvantages of kin and non-kin care placements. Kin care placements tended to provide continued socio-emotional support (continued connection with birth parents and less trauma in transitioning into care) while non-kin placements tended to provide more material benefits (higher income, better housing, and neighborhood) (Berrick, 1997). In all studies reviewed, African-American children were placed more frequently with kinship caregivers. They were placed earlier and remained in care longer. Ages of children studied varied by study and region making it difficult to assess if the trends noted were due to the variation in the age of child or regional differences. The primary reasons for placement were similar across studies (neglect and maternal substance abuse) (Scannapieco, Hegar & McAlpine, 1997) Children placed with kin fared about as well as those placed with unrelated foster care providers in spite of the more limited material resources of the kinship care providers. It is unknown if the attachment relationship of the child to the kinship caregiver accounts for this. Since the effect of the blood relationship (kin/non-kin) has not been previously investigated, it is unknown if it is a significant predictor for secure attachment for infants in foster care. Unrelated foster caregivers have argued that the caregiver's blood relationship is less important than the quality of care that they provide (Takas, 1994; Child Welfare League of America, 1994).

Model, Research Questions, and Hypotheses. Using the Belsky model, this study tests the effect of independent variables identified by previous studies of attachment and foster care outcomes on security of attachment of the infant in care. Specifically, the effects of caregiver characteristics (caregiver sensitivity, childhood trauma, blood relationship to child, motivation to care for this specific child, socio-economic status), very low birth weight and environmental contextual factors (support, stress, and the physical caregiving environment) are tested.

The following research questions and hypotheses are based on the existing research. How does the blood relationship of the caregiver to the infant in care affect the security of attachment of the infant? It is hypothesized that the blood relationship is the "something more" that allows children placed with kin to have less mental health problems and to fare about as well as children placed with non-kin caregivers with greater resources.

The second research question asks: Are caregiver characteristics, infant characteristics, and environmental factors predictors of secure attachment in the infant in care? It is hypothesized that these factors are significant and independent predictors of attachment in infants in care.

A third research question flows from the first two. It asks: Does the blood relationship of the caregiver have a greater proportional effect than other factors (caregiver characteristics, infant characteristics and environmental factors) in predicting secure attachment of the infants in care? It is hypothesized that the blood relationship of the caregiver-infant dyad will have a greater proportional effect than other factors in predicting secure attachment of the infant in care.

Method

Design and Sample. A cross-sectional research design (Kerlinger, 1986) is used to study the security of attachment of infants 10 – 15 months of age in Cuyahoga County, Ohio from May 2000 to March 2001. The study sample is a self-selected, criterion sample (Kerlinger, 1986). All kin and unrelated caregivers in Cuyahoga County with infants (10-15 months of age) who were placed with them within the first three months of the child's life and who have been in their care continuously for at least six months prior to the initial study contact were eligible for participation. The selection criteria were fairly rigid to limit the number of confounding variables and to examine a best case scenario for developing a secure attachment relationship between the infant and the caregiver.

Concepts and Measures. The following concepts, definitions, variables, and measures form the basis for the study. "Infant" is defined as a child ten to fifteen months of age, without multiple severe developmental, neurological or medical problems (that would affect assessment of security of attachment). Infant temperament is measured in this study using the Infant Toddler Symptom Checklist (ITSC), (10 -12 Month Form, 13 - 18 Month Form) (DeGangi, Poisson, Sickel, Wiener, 1995). Infant development (the level of gross motor, fine motor, language, comprehension and person-social development) is

assessed using the Minnesota Infant Development Inventory (MIDI) (Ireton & Thwing, 1980). “Caregiver” is the adult designated by the Cuyahoga County Department of Children and Family Services as the person responsible for the care of the child. Demographic information to compare participants in this study with earlier studies (age, physical health, education, ethnicity, socio-economic status) is gathered using the Caregiver Interview Form (Wells, 1999) at the Time 1 In-home Interview.

The following standardized instruments were used at the Time 1: In-home Interview to assess the following variables: Support Functions Scale (Dunst & Trivette, 1988) (family support) and the Parenting Stress Index – Short Form (Abidin, 1995) (stress in providing care to the specific study child). Home environment (defined as the physical and relational environment in the caregiver’s home for the specific infant) was assessed by the Home Observation for the Measurement of the Environment (HOME) - Infant/Toddler version (Caldwell & Bradley, 1984). Sub-scales of organization, learning materials and variety were used to assess the physical environment in the home. Specific sub-scales that address parental behavior (Parental Responsivity, Acceptance/Avoidance of Punishment, and Parental Involvement) were used to measure caregiver sensitivity and compare observed caregiver behavior in kin and non-kin homes.

“Relationship to study child” is defined as the relationship of the present caregiver to the study child prior to placement. This is a dichotomous variable: “kin” (a blood relative of the study child) and “not-kin” (a person not a blood relative of the study child).

The attachment relationship of the infant to a specific, primary, caregiver for protection and nurturing, is defined by the dependent variable “security of attachment.” Security of attachment is assessed using the Strange Situation Laboratory Procedure (Ainsworth, Blehar, Waters, & Wall, 1978). The Childhood Trauma Questionnaire (CTQ) (Bernstein & Fink, 1998) is used to assess childhood history of caregiver trauma.

Procedures. After subject recruitment from three data draws (July 2000, November 2000 and January 2001), those who met study criteria and provided written consent¹ participated in the study. Data were gathered at two contact points: Time 1 Contact: In-home Interview (in the participants home) and Time 2: Contact - Strange Situation Protocol conducted in the laboratory of Lynn Singer, Ph.D., 11400 Euclid Avenue, Suite 250A, Case Western Reserve University, Cleveland, Ohio. After the Strange Situation Procedure was completed, the Childhood Trauma Questionnaire was administered to her or him in the observation room.

Data Analysis Method. Data obtained in this study were coded and analyzed by the researcher, using the established test protocol for each measure and procedure. Logistic regression is used to test the hypotheses in this study. Using the formula: $\text{Logit}(Y) = B + B_1X_1 + B_2X_2 + \dots + B_kX_k$. A logistic regression model (Neter et al., 1996, Menard, 1995) was developed which tested the proportional predictive significance of the independent variables on the dependent variable.

¹ All guidelines for protection of human subjects were adhered to as outlined by the Office of Research at Case Western Reserve University.

Results

Sample. Caregivers characteristics. Kin and non-kin caregiver characteristics in the study group are similar. Overall, kin are less well off financially and report a higher prevalence of chronic illness than non-kin caregivers. They report less support available to them in providing for the infants in their care. Stress levels in caring for the subject child are relatively low for both kin and non-kin caregivers in the study group. Non-kin caregivers have more resources available from DCFS and provide more age appropriate learning materials to the children in their care.

In self rating of childhood trauma, the average level of abuse reported by kin caregivers was higher in all areas than non-kin caregivers. Low levels of abuse were reported by non-kin caregivers (none - minimal range) except in the area of sexual abuse that was in the low to moderate range. Kin caregivers reported higher average levels of abuse (low to moderate) in all areas except sexual abuse that was in the moderate to severe range. Kin reported a significantly greater degree of physical neglect than non-kin ($p=.003$).

There is was little significant variation in the mean scores of kin and non-kin caregivers on the HOME (Non-kin caregivers scored slightly higher in all areas except "responsivity" and significantly ($p=.022$) higher than kin caregivers in the availability of age appropriate learning materials in the home environment); parent stress as measured by the Parenting Stress Index - Short Form (fairly low for both groups - kin and non-kin caregivers is below the 50%ile; and Support Functions Scale (kin caregivers report less available support than non-kin caregivers).

Infant characteristics. In all areas except prenatal substance exposure, the present study found that infants placed with non-kin caregivers had more problems at placement than those placed with kin. Caregivers reported that only 13% (6) of the infants in the study sample were without problems upon entering care. Infants had an average of three physical problems. These problems are comparable in type, prevalence, and severity to those found in other studies of infants in foster care (Berrick et al., 1998).

Security of attachment. The dependent variable - the infant's security of attachment to the caregiver - is measured using the coding results of the videotaped Strange Situation Procedure ($n = 46$).² The proportion of infants who are classified as securely attached is about the same (67%-68%) in the kin and non-kin groups and is similar to the proportion of securely attached infants birth and adoptive parent studies (60% - 75%). In this best case scenario that controls for time and number of placements), infants at about one year can develop secure attachment relationship to both kin and non-kin caregivers.

Of concern is that those classified insecure (around 33% in both groups) are primarily classified as disorganized/disoriented (kin – 50%; non-kin 81%) compared to 14% in a

² A₁ and A₂ are avoidant insecure. B₁, B₂, B₃ and B₄ are secure. C₁ and C₂ are resistant/ambivalent insecure. D is disorganized/disoriented and it is assigned in combination with the basic A, B and C code. Those coded D are coded insecure even if their base code may be in the B category. CC (Can't Classify) is given when the behaviors exhibited in the videotape do not seem to fit any classification.

middle-class non-clinical sample and 24% in a low-socio-economic class sample in North American (van IJzendoorn, Schuengel & Bakermans-Kranenburg, 1999).

In this study, the caregiver characteristics of childhood sexual abuse and emotional abuse are predictive of insecure attachment. Two environmental factors also are significant or approach significance as predictors of secure attachment - availability of appropriate learning materials and organization.

Utility for Social Work Practice

The results of this study must be interpreted with caution. Although the blood relationship between the child and caregiver does not seem to affect the security of attachment of the infants at one year, it is only one variable to consider in assessing the full impact of placement of infants with kin and unrelated foster care providers over the life course of the child. A longitudinal study which investigates the effect of blood relationship over time needs further study.

The results indicate areas where support and training of social workers, child welfare workers and caregivers are needed. Screening of caregivers regarding their own experience of abuse and assisting them in understanding their own unresolved issues and how these can affect caregiving could help them be more sensitive caregivers and improve care to infants.

Caregivers and social workers could also benefit from an understanding of normal child development in the first year of life. Expanding social work education regarding normal child development to include relational interventions and appropriate learning materials for infants at various developmental stages could expand the skills of social workers to increase their support for kin and unrelated caregivers in these areas which would improve the quality of care for infants.

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